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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/777,414	02/11/2004	Alberto Menache	MENAH-66588	4314

7590 07/15/2005

Joel D. Voelzke, Esq.  
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Los Angeles, CA 90045

EXAMINER
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MULL, FRED H

ART UNIT	PAPER NUMBER
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3662

DATE MAILED: 07/15/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Interview Summary</b>	Application No.	Applicant(s)	
	10/777,414	MENACHE ET AL.	
	Examiner	Art Unit	
	Fred H. Mull	3662	

All participants (applicant, applicant's representative, PTO personnel):

- (1) Fred H. Mull. (3) \_\_\_\_\_  
 (2) Joel D. Voelzke. (4) \_\_\_\_\_

Date of Interview: July 11, 2005.

Type: a) ☒ Telephonic b) ☐ Video Conference  
 c) ☐ Personal [copy given to: 1) ☐ applicant 2) ☐ applicant's representative]

Exhibit shown or demonstration conducted: d) ☐ Yes e) ☐ No.  
 If Yes, brief description: \_\_\_\_\_

Claim(s) discussed: 1,3,6,10,11,18,35,37,38,60 and 68.

Identification of prior art discussed: Boyd, Belcher.

Agreement with respect to the claims f) ☐ was reached. g) ☒ was not reached. h) ☐ N/A.

Substance of Interview including description of the general nature of what was agreed to if an agreement was reached, or any other comments: See Continuation Sheet.

(A fuller description, if necessary, and a copy of the amendments which the examiner agreed would render the claims allowable, if available, must be attached. Also, where no copy of the amendments that would render the claims allowable is available, a summary thereof must be attached.)

THE FORMAL WRITTEN REPLY TO THE LAST OFFICE ACTION MUST INCLUDE THE SUBSTANCE OF THE INTERVIEW. (See MPEP Section 713.04). If a reply to the last Office action has already been filed, APPLICANT IS GIVEN ONE MONTH FROM THIS INTERVIEW DATE, OR THE MAILING DATE OF THIS INTERVIEW SUMMARY FORM, WHICHEVER IS LATER, TO FILE A STATEMENT OF THE SUBSTANCE OF THE INTERVIEW. See Summary of Record of Interview requirements on reverse side or on attached sheet.

Examiner Note: You must sign this form unless it is an Attachment to a signed Office action.

  
 Examiner's signature, if required

## Summary of Record of Interview Requirements

### Manual of Patent Examining Procedure (MPEP), Section 713.04, Substance of Interview Must be Made of Record

A complete written statement as to the substance of any face-to-face, video conference, or telephone interview with regard to an application must be made of record in the application whether or not an agreement with the examiner was reached at the interview.

### Title 37 Code of Federal Regulations (CFR) § 1.133 Interviews

#### Paragraph (b)

In every instance where reconsideration is requested in view of an interview with an examiner, a complete written statement of the reasons presented at the interview as warranting favorable action must be filed by the applicant. An interview does not remove the necessity for reply to Office action as specified in §§ 1.111, 1.135. (35 U.S.C. 132)

#### 37 CFR §1.2 Business to be transacted in writing.

All business with the Patent or Trademark Office should be transacted in writing. The personal attendance of applicants or their attorneys or agents at the Patent and Trademark Office is unnecessary. The action of the Patent and Trademark Office will be based exclusively on the written record in the Office. No attention will be paid to any alleged oral promise, stipulation, or understanding in relation to which there is disagreement or doubt.

The action of the Patent and Trademark Office cannot be based exclusively on the written record in the Office if that record is itself incomplete through the failure to record the substance of interviews.

It is the responsibility of the applicant or the attorney or agent to make the substance of an interview of record in the application file, unless the examiner indicates he or she will do so. It is the examiner's responsibility to see that such a record is made and to correct material inaccuracies which bear directly on the question of patentability.

Examiners must complete an Interview Summary Form for each interview held where a matter of substance has been discussed during the interview by checking the appropriate boxes and filling in the blanks. Discussions regarding only procedural matters, directed solely to restriction requirements for which interview recordation is otherwise provided for in Section 812.01 of the Manual of Patent Examining Procedure, or pointing out typographical errors or unreadable script in Office actions or the like, are excluded from the interview recordation procedures below. Where the substance of an interview is completely recorded in an Examiners Amendment, no separate Interview Summary Record is required.

The Interview Summary Form shall be given an appropriate Paper No., placed in the right hand portion of the file, and listed on the "Contents" section of the file wrapper. In a personal interview, a duplicate of the Form is given to the applicant (or attorney or agent) at the conclusion of the interview. In the case of a telephone or video-conference interview, the copy is mailed to the applicant's correspondence address either with or prior to the next official communication. If additional correspondence from the examiner is not likely before an allowance or if other circumstances dictate, the Form should be mailed promptly after the interview rather than with the next official communication.

The Form provides for recordation of the following information:

- Application Number (Series Code and Serial Number)
- Name of applicant
- Name of examiner
- Date of interview
- Type of interview (telephonic, video-conference, or personal)
- Name of participant(s) (applicant, attorney or agent, examiner, other PTO personnel, etc.)
- An indication whether or not an exhibit was shown or a demonstration conducted
- An identification of the specific prior art discussed
- An indication whether an agreement was reached and if so, a description of the general nature of the agreement (may be by attachment of a copy of amendments or claims agreed as being allowable). Note: Agreement as to allowability is tentative and does not restrict further action by the examiner to the contrary.
- The signature of the examiner who conducted the interview (if Form is not an attachment to a signed Office action)

It is desirable that the examiner orally remind the applicant of his or her obligation to record the substance of the interview of each case. It should be noted, however, that the Interview Summary Form will not normally be considered a complete and proper recordation of the interview unless it includes, or is supplemented by the applicant or the examiner to include, all of the applicable items required below concerning the substance of the interview.

A complete and proper recordation of the substance of any interview should include at least the following applicable items:

- 1) A brief description of the nature of any exhibit shown or any demonstration conducted,
- 2) an identification of the claims discussed,
- 3) an identification of the specific prior art discussed,
- 4) an identification of the principal proposed amendments of a substantive nature discussed, unless these are already described on the Interview Summary Form completed by the Examiner,
- 5) a brief identification of the general thrust of the principal arguments presented to the examiner,  
(The identification of arguments need not be lengthy or elaborate. A verbatim or highly detailed description of the arguments is not required. The identification of the arguments is sufficient if the general nature or thrust of the principal arguments made to the examiner can be understood in the context of the application file. Of course, the applicant may desire to emphasize and fully describe those arguments which he or she feels were or might be persuasive to the examiner.)
- 6) a general indication of any other pertinent matters discussed, and
- 7) if appropriate, the general results or outcome of the interview unless already described in the Interview Summary Form completed by the examiner.

Examiners are expected to carefully review the applicant's record of the substance of an interview. If the record is not complete and accurate, the examiner will give the applicant an extendable one month time period to correct the record.

#### Examiner to Check for Accuracy

If the claims are allowable for other reasons of record, the examiner should send a letter setting forth the examiner's version of the statement attributed to him or her. If the record is complete and accurate, the examiner should place the indication, "Interview Record OK" on the paper recording the substance of the interview along with the date and the examiner's initials.

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Continuation of Substance of Interview including description of the general nature of what was agreed to if an agreement was reached, or any other comments:

Dicussed the added (underlined) and emphasized (bolded) limitations in the attached proposed amendment. Applicant's representative gave his reasoning for thinking these limitations distinguished the prior art. A fuller version of that reasoning will be included in the written response to the previous Office Action. With regard to claim 35, the Examiner requested clarification of the meaning of "sensors at not precisely controlled position" (line 2) in view of the specification stating "sensors that are placed at known locations" (§16, lines 5-6).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Fred H. Mull whose telephone number is 571-272-6975. The examiner can normally be reached on M-F 9:00 - 5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Thomas H. Tarcza can be reached on 571-272-6979. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Art Unit: 3662

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Fred H. Mull  
Examiner  
Art Unit 3662

fhm

## FAX COVER SHEET

Date: July 6, 2005To: Examiner Fred Mull Fax Number: (571) 273-6975Company: U.S.P.T.O.

From: INTELLECTUAL PROPERTY LAW OFFICE OF JOEL D. VOELZKE

Telephone: (310) 590-4525

Facsimile: (310) 590-4526

Our Ref.: 105-006Your Ref.: 10/777,414Total Number of Pages: 5 (including this cover page)*Additional Message:*

This message is intended only for use of the entity or individual to whom it is addressed, and may contain information that is privileged, confidential or exempt from disclosure under applicable law. Unless you are the addressee or have been authorized by the addressee (to the extent such authorization is lawful), you may not use, copy, or disclose this message or its contents to anyone.

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Appl. No. : 10/777,414 Confirmation No.:  
Applicant : Alberto Menache et al.  
Filed : February 11, 2004  
Art Unit : 3662  
Examiner : Fred Mull  
Title : RADIO FREQUENCY MOTION TRACKING SYSTEM AND  
METHOD

Docket No.: : 105-006 July 6, 2005  
Customer No. : 47533

AGENDA FOR TELEPHONIC EXAMINER INTERVIEW

Examiner Fred Mull  
Commissioner for Patents  
P.O. Box 1450  
Alexandria, Virginia 22313-1450

Dear Examiner Mull:

Thank you for your office action of April 27 in this case, and for granting me the courtesy of an Examiner Interview which we have scheduled for July 11 at 2:00 p.m. EST (11:00 a.m. PST). I will call you at that time.

On the following pages I have reproduced some of the claims that are pending with proposed amendments shown in underline/strikeout form. In other claims, I have highlighted via bold text limitations that I believe help distinguish the claims over the prior art and which I would like to discuss with you in our interview. This should help focus and facilitate our discussion.

While I may present arguments in my formal response to the office action that focus on other limitations as well after I have had an opportunity to study the Office Action in greater detail, these are the limitations that I would like to discuss with you in our interview. Accordingly, this agenda shall should not be construed in any way as an admission that other limitations presented in the claims do not also define novel and nonobvious subject matter.

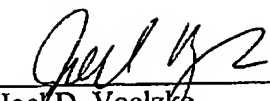
I look forward to discussing this application with you.

Serial No. 10/777,414

Attorney Docket 105-006

DATED: July 6, 2005

By:

  
\_\_\_\_\_  
Joel D. Voelzke  
Registration No. 37,957

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Culver City, CA 90230  
Tel: (310) 590-4525  
Fax: (310) 590-4526



Serial No. 10/777,414

Attorney Docket 105-006

Claims for Discussion Purposes

1. A motion capture system comprising:  
at least four stationary radio frequency receivers around a defined area;  
a first radio frequency transmitter disposed at ~~a determinable~~ an arbitrary position relative to the receivers;  
a plurality of radio frequency transmitters affixed to at least one movable object within the vicinity of the defined area;  
the receivers receiving radio frequency signals transmitted by the transmitters; and  
a processing system for processing the signals received ~~by~~ from the transmitters to determine positional information regarding the movable object within the vicinity of the defined area, the processing system using signals received from the first transmitter as a reference for determining positions of the transmitters affixed to the movable object relative to the position of the first transmitter at said arbitrary position.
3. The system of claim 1 wherein the stationary receivers have respective receiver clocks, and **the stationary receivers do not have circuitry which synchronizes their receiver clocks from one stationary receiver to another.**
6. The method of claim 1 wherein the at least one movable object comprises at least two relatively moving objects within a product manufacturing process, and wherein the method further comprises using said determined position information to **analyze said product manufacturing process.**
9. The system of claim 1 wherein at least one of the plurality of radio frequency transmitters affixed to the movable object comprises a patch which is activated by removal of a backing layer therefrom.
10. The system of claim 9 wherein the patch is a flexible patch having an adhesive layer on the transmitter covered by the backing layer, the transmitter being activated by removal of the backing layer to expose the adhesive layer leaving the transmitter operational and ready to adhere to an object.
11. The system of claim 1 wherein each of the transmitters affixed to the object transmits **a synchronization code** and a tag identification code, the tag identification code being

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unique to each tag, the synchronization code and the tag identification code being modulated onto a carrier frequency.

18. The system of claim 1 wherein each of the transmitters attached to the movable object comprises:

- a backing layer;
- circuitry affixed to the backing layer for generating a radio frequency waveform;
- an antenna for transmitting the waveform;
- an adhesive applied to the backing layer;
- a removable portion applied to the adhesive;
- a sensor for detecting when the removable portion is removed; and

**a transmitter controller for enabling the device to begin transmitting the radio frequency waveform when the sensor detects that the removable portion has been removed;**  
wherein when the removable portion is removed the transmitter the transmitter and adhesive layer are left behind such that the transmitter is ready for adhering to an object via the adhesive.

35. A method of tracking movement of an object comprising:

placing a plurality of radio frequency sensors at not precisely controlled positions about a capture zone;

placing at least one reference radio frequency transmitter defining a reference tag at a not precisely controlled position within the capture zone;

~~determining a location of the marker tag with respect to the sensors;~~

placing a plurality of radio frequency transmitters defining marker tags on the object;

receiving and digitizing at the sensors signals transmitted by the reference tag and the marker tags; and

processing the signals transmitted by the reference tag and the marker tags to determine positions of the object relative to the reference tag as the object moves through the capture zone.

37. A method of tracking movement of an object comprising:

disposing radio frequency transmitters defining respective marker tags at each of a plurality of separate positions on the object, wherein each transmitter transmits a respective waveform corresponding at least in part to a unique marker tag identification code;

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receiving the transmitted waveforms, the received versions of the transmitted waveforms  
defining received waveforms;

associating the respective received waveforms with the respective marker tags that  
transmitted those waveforms **without demodulating the waveforms to respective bit patterns;**  
and

processing the respective waveforms to determine locations of the respective marker tags.

38. The method of claim 37 wherein the waveform processing includes correlating  
sampled values of each of the received waveforms against samples of stored tag identification  
codes waveforms; and

**identifying a particular marker tag as the marker tag that transmitted a particular  
received waveform based on a high correlation between said samples of said particular  
received waveform and a particular stored tag identification code waveform.**

40. The method of claim 38 wherein the stored tag identification code waveforms  
have been filtered to approximate an idealized tag identification code waveform as it would  
actually be received at said sensors.

60. The method of claim 59 further comprising:

processing an image recorded by the hand held camera and signals received from the  
transmitters on the camera **to remove camera jitter** from the recorded image.

68. A motion capture system according to claim 66 wherein:

the wireless transmitters include at least one transmitter disposed at a known location  
defining a reference transmitter; and

the position determining means comprises means for resolving positions of **at least 100  
transmitters to within 1 cm of accuracy** over a capture zone having a diagonal of at least 50  
meters.